



- 1 -

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

GLOCK et al

SERIAL NO. 10/070,936

FILED 08/09/2002

Group Art Unit 1616

FOR: Herbicidal Composition

Examiner: Sabiha Qazi

Commissioner of Patents and Trademarks

Washington, D.C. 20231

DECLARATION UNDER RULE 132

I, Jutta Glock, a citizen of Germany, residing in CH-4322 Mumpf, Switzerland, hereby declare:

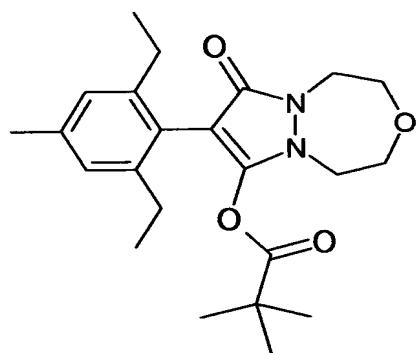
CREDENTIALS

1. That I was awarded the degree of a Ph.D. in Agricultural Biology by the German university of Stuttgart-Hohenheim in 1990;
2. That I have been employed by CIBA-GEIGY AG, Basel, Switzerland as a biologist since 1990 and held the position of a biologist for screening of safeners;
3. That I have been engaged in screening work in the field of safeners for Ciba-Geigy AG since 1990.
4. That I presently hold the position of a Marketing Support Manager for Syngenta
5. That prior to my employment with Ciba-Geigy AG I was employed by the University of Hohenheim as a research assistant from 1986 to 1990 in the "Institut für Phytomedizin" and that I was engaged in research on plant protection and plant physiology (uptake, translocation, metabolism and mode of action of radio labeled herbicides);

COMPARATIVE PROCEDURES

6. That the following tests were carried out under my supervision in a greenhouse in Stein/Switzerland to determine the herbicidal action of the following compositions according to the present invention:

compound A of the formula



in combination with one of the co-herbicides mentioned in the Table, and to compare this herbicidal action with the herbicidal actions observed for compound A and the respective co-herbicide, each taken alone.

7. The method employed was as follows:

Target weeds were grown in the glasshouse in 10cm square pots at a rate of approximately 30 grass plants per pot, or 3 to 5 broadleaves, in a standard compost, to the 2 to 3 leaf stage.

Compound A was applied at 7.5 and 15 gai/ha to 3 replicates of target species. Each mixture herbicide was applied at rates between 5 and 10gai/ha to a single replicate of target plants. Treatments, diluted in RO water (deionised by reverse osmosis process), were applied at a spray application volume of 200l/ha. Treatments were applied to the foliage of

the 4 grass and 4 broad leaved weeds using a tracksprayer with a calibrated single flat fan nozzle. After spray application, plants were placed in a cool glasshouse bay, set to 12/16°C. Visual ratings of % herbicidal effect were made 22 days after treatment, where 0 = no effect and 100 = total kill. Data for compound A alone were meaned over the 3 replicates, the mean is shown on the results table.

After assessment the observed results were compared with the "Colby" expected results as a test for synergy using the formula 'Expected' result for (a+b) = $a + b - (ab/100)$, where a and b are the 'observed' results for a and b on their own (ref Colby 1967).

These data are summarised in the Table below [AMARE (Amaranthus retroflexus), SETVI (Setaria viridis), STEME (Stellaria media)]. Observed results which are superior to the expected results according to Colby are indicative of synergy.

Table:

Treatment	Compound A (g/ha)	Mixture partner (g/ha)	SETVI Obs.	Exp.	AMARE Obs.	Exp.	STEME Obs.	Exp.
Compound A	7.5 15		3 20		2 3		2 3	
Amidosulfuron		5	0		98		50	
Compound A + Amidosulfuron	7.5	5	25	16.7	100	98.1	87	51.7
flucarbazone		10	89		86		25	
Compound A + flucarbazone	15	10	96	91.6	93	86.0	45	35.0

CONCLUSIONS

11. The results obtained for the herbicidal mixtures of compound A with a co-herbicide and summarized in the Table are superior to the results expected according to Colby. This observation is clearly indicative of synergy. T

FINAL STATEMENT

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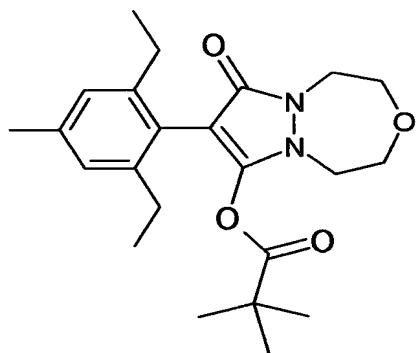
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Table:

Treatment	Compound A (g/ha)	Mixture partner (g/ha)	AMARE Obs.	Exp.	VERPE Obs.	Exp.
Compound A	7.5 15		3 20		2 3	
Mecoprop		100	55		60	
Compound A + Mecoprop	7.5	100	68	56.5	95	40.0
mecoprop-P		100	72		0	
Compound A + mecoprop-P	7.5	100	80	72.0	5	0.0
Dicamba		20	75		0	
Compound A + dicamba	15	20	83	75.8	20	3.3
Diflufenican		20	55		0	
Compound A +	7.5	20	89	56.5	15	3.3

diflufenican						
Tribenuron		5	94	55		
Compound A + tribenuron	7.5	5	97	94.2	68	56.5

CONCLUSIONS

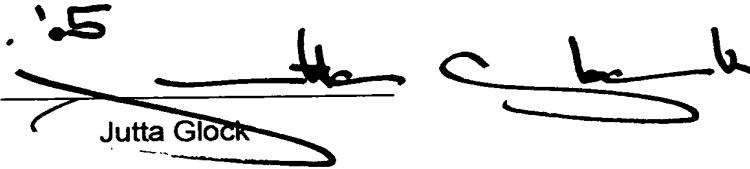
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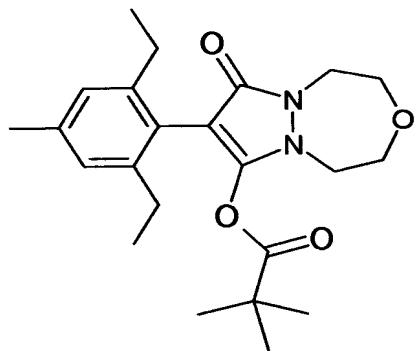
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7. The method employed was as follows:

Target weeds were grown in the glasshouse in 10cm square pots at a rate of approximately 30 grass plants per pot, or 3 to 5 broadleaves, in a standard compost, to the 2 to 3 leaf stage.

Compound A of the formula was applied at 7.5, 15 and 30gai/ha as an emulsion concentrate to 3 replicates of target species. Each mixture herbicide was applied at rates between 5 and

100 gai/ha to a single replicate of target plants. Treatments, diluted in RO water (deionised by reverse osmosis process), were applied at a spray application volume of 200l/ha.

Treatments were applied to the foliage of the 4 grass and 4 broad leaved weeds using a tracksprayer with a calibrated single flat fan nozzle. After spray application, plants were placed in a cool glasshouse bay, set to 12/16°C. Visual ratings of % herbicidal effect were made 22 days after treatment, where 0 = no effect and 100 = total kill. Data for compound A alone were meaned over the 3 replicates, the mean is shown on the results table.

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These data are summarised in the Table below [ALOMY (*Alopecurus myosuroides*), LOLMU (*Lolium multiflorum*), SETVI (*Setaria viridis*)]. Observed results which are superior to the expected results according to Colby are indicative of synergy.

Table:

Treatment	Compound A (g/ha)	Mixture partner (g/ha)	ALOMY Obs. Exp.	LOLMU Obs. Exp.	SETVI Obs. Exp.
Compound A	7.5		3	2	17
	15		20	3	23
	30		72	85	89
Bromoxynil		40	0	5	0
Compound A + bromoxynil	15	5	60 20.0	82 8.2	86 23.3
Bromoxynil + MCPA		40 + 40	0	0	0
Compound A + bromoxynil + MCPA	30	40	86 72.3	99 85.0	99 89
Clodinafop		10	15	84	99
Compound A + clodinafop	15	10	97 32.0	92 84.5	100 99.2
Phenoxyprop		20	40	0	100

Compound A + phenoxyprop	15	20	89	52.00	90	3.3	100	100.0
MCPA		100	0		0		0	
Compound A + MCPA	15	100	50	20.0	94	3.3	94	23.3
Tralkoxydim		50	0		60		45	
Compound A + tralkoxydim	15	50	77	20.0	86	61.3	88	57.8
Florasulam		5	0		10		60	
Compound A + florasulam	7.5	5	35	3.3	10	11.5	73	66.7
Iodosulfuron		5	45		68			
Compound A + iodosulfuron	7.5	5	50	46.8	86	68.5		
Thifensulfuron		5	35		0			
Compound A + thifensulfuron	7.5	5	55	37.2	5	1.7		

CONCLUSIONS

11. The results obtained for the herbicidal mixtures of compound A with a co-herbicide and summarized in the Table are superior to the results expected according to Colby. This observation is clearly indicative of synergy. T

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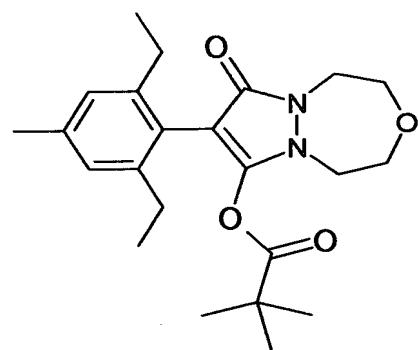
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Compound A was applied at 7.5 and 15 gai/ha as an emulsion concentrate to 3 replicates of target species. Each mixture herbicide was applied at rates between 5 and 400 gai/ha to a single replicate of target plants. Treatments, diluted in water (deionised by reverse osmosis

process), were applied at a spray application volume of 200l/ha. Treatments were applied to the foliage of the grass and broad leaved weeds using a tracksprayer with a calibrated single flat fan nozzle (11002VS), typical for herbicide application. After spray application, plants were placed in a cool glasshouse bay set to 12/16°C. Visual ratings of % herbicidal effect were made 21 days after treatment, where 0 = no effect and 100 = total kill. Data for compound A alone were meaned over the 3 replicates, the mean is shown on the results table.

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Treatment	Compound A (g/ha)	Mixture partner (g/ha)	ALOMY		LOLMU		SETVI	
			Obs.	Exp.	Obs.	Exp.	Obs.	Exp.
Compound A	7.5		3		0		0	
	15		10		2		0	
Propoxycarbazone		5	73		0		0	
Compound A + propoxycarbazone	7.5	5	78	73.9	0	0.0	25	0.0
Fluroxypyr		40	0		0		0	
Compound A + fluroxypyr	15	40	15	10.0	0	1.7	45	0.0
Metsulfuron		10	77		75		55	
Compound A + metsulfuron	15	10	80	79.3	78	75.4	50	55.0
Triallate		400	0		0		0	
Compound A +	15	400	78	10.0	83	1.7	83	0.0

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CONCLUSIONS

11. The results obtained for the herbicidal mixtures of compound A with a co-herbicide and summarized in the Table are superior to the results expected according to Colby. This observation is clearly indicative of synergy. T

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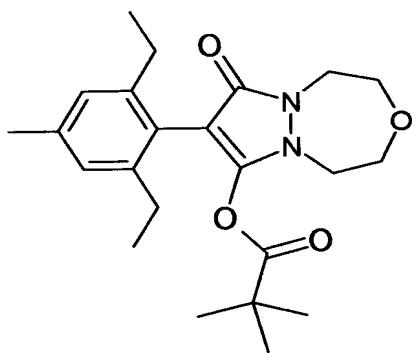
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	15		10	2	0	3
	30		63	88	79	0
2,4-D ester		100	25	0	0	0
Compound A + 2,4-D ester	15	100	50 32.5	35 1.7	65 0	40 3.3
2,4-D amine		100	0	0	0	0
Compound A + 2,4-D amine	15	100	25 10	0 1.7	0 0	15 3.3
ioxynil		40	0	0	0	84
Compound A + ioxynil	15	40	20 10	0 1.7	30 0	78 45.9
Metosulam		10	0	0	0	100
Compound A + metosulam	15	10	15 10	0 1.7	30 0	100 100
Prosulfocarb		500	0	50	35	0

Compound A + prosulfocarb	7.5	500	55	3.3	45	50	67	35	5	1.7
Flupyralsulfuron		10	87		10		45		92	
Compound A + flupyralsulfuron	15	10	98	88.3	60	1.5	100	100	100	92.3
Sulfosulfuron		10	90		65		50		63	
Compound A + sulfosulfuron	15	10	90	91.0	78	65.6	70	50	78	64.2
Triasulfuron		5	40		40		5		100	
Compound A + triasulfuron	7.5	5	50	42.0	50	40.0	20	5	100	100
Treatment	Compound A (g/ha)	Mixture partner (g/ha)	ALOMY Obs.	ALOMY Exp.	LOLMU Obs.	LOLMU Exp.	SETVI Obs.	SETVI Exp.	STEME Obs.	STEME Exp.
Trifluralin		800	0		0		20		45	
Compound A + trifluralin	30	800	85	63.3	99	87.5	95	82.9	60	45.0
Pendimethalin		800	15		0		55		84	
Compound A + pendimethalin	30	800	98	68.8	94	87.5	98	90.4	89	84.0
Picolinafen + Pendimethalin		20 + 400	0		0		20		80	
Compound A + picolinafen + pendimethalin	30	20 + 400	90	63.3	94	87.5	97	82.9	80	80

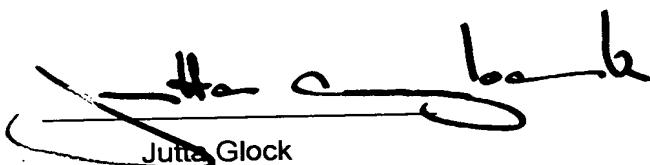
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